Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method comprising:

selecting a plurality of predetermined demographic groups including externally selected characteristics including historical data from a plurality of actual viewers and historical actual electronic program guide (EPG) data to associate viewers with;

recording a viewer's monitor behavior with data item variables including watched channel, watching start time, ~~and~~ at least one of watching date and watching duration, a ratio of time watched to time available for at least one program, and a ratio of time missed to time available for at least one program;

associating a particular demographic group of the plurality of demographic groups with the viewer;

from a server-side system, inputting historical data information regarding demographic information tagged to the viewer for the viewer's demographic group;

generating preferred program guide information based on the historical data information for the viewer's demographic group and based on bias metrics;

inputting the preferred program guide information for the viewer's demographic group;

at a client side system, associating the preferred program guide information with the viewer's monitor behavior; and

defining therefrom a knowledge base with demographic group cluster information of the viewer in terms of statistical state machine transition models.

2.   (Previously Presented) The method according to claim 1, wherein defining the knowledge base comprises calculating a parameterized transition matrix defining the viewer's viewing habits, the parameterized transition matrix containing information of program transitions initiated by the viewer, and wherein

the row number and the column number of the element represent the first and second states.

3.   (Previously Presented) The method according to claim 2, further comprising defining at least two concurrent transition matrices including a channel matrix and a genre matrix.

4.   (Previously Presented) The method according to claim 2, further comprising defining the transition matrix as a two-dimensional matrix with transitions from television channels to television channels in temporal form.

5.   (Previously Presented) The method according to claim 1, further comprising providing feedback information with the viewer's monitor behavior by recording a click stream.

6.   (Previously Presented) The method according to claim 1, further comprising parameterizing the viewer's monitor behavior with a pseudo hidden Markov process.

7.   (Previously Presented) The method according to claim 18, further comprising defining the double random process with a plurality of dimensions, and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title.

8.   (Currently Amended) A non-transitory computer-readable storage medium encoded with a plurality of processor executable instructions for implementing a function of:
      selecting a plurality of predefined demographic groups including externally selected characteristics including historical data from a plurality of actual viewers and historical actual electronic program guide (EPG) data, the demographic groups defined by viewing monitor information including watch date, watch start

time, watch duration and watch channel, EPG data and associated demographic information, a ratio of time watched to time available for at least one program, and a ratio of time missed to time available for at least one program;

associating a particular demographic group of the plurality of demographic groups with each viewer based on monitor behavior;

capturing state transitions by defining monitor behavior in a plurality of statistical state machine families each representing viewing behavior of the particular demographic group;

at a client-side system, combining the statistical state machine families into global statistical state machines defined in a global probability density function based on the particular demographic group;

updating and reinforcing the global probability density function upon determining that a given probability function has a higher confidence level than a previous probability density function based in part on bias metrics; and

outputting a global profile based on the global probability density function, wherein the global profile is suitable for determining programming content of a television server for classes of viewers.

9.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 8, wherein the state transitions represent a television viewer's monitor behavior and the statistical state machines are selected from the group consisting of watched channel, watching start time, and at least one of watching date and watching duration.

10.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 8, wherein the global profile represents demographic cluster information of a viewer in terms of a statistical state machine transition matrix.

11.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 8, wherein the state machines are defined in

a parameterized transition matrix defining the viewer's viewing habits, the transition matrix comprising an element indicating information of a program transition initiated by the viewer.

12.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 11, wherein the parameterized transition matrix is one of at least two concurrent transition matrices including a channel matrix and a genre matrix.

13.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 11, wherein the parameterized transition matrix is a two-dimensional matrix with transitions from television channels to television channels in temporal form.

14.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 8, further comprising instructions for parameterizing the viewer's monitor behavior with a pseudo hidden Markov process.

15.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 8, further comprising instructions for defining a double random process with a plurality of dimensions, and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title.

16.   (Previously Presented)   The non-transitory computer-readable storage medium according to claim 10, further comprising instructions for:

at the client-side system, associating program guide information with the viewer's monitor behavior; and

defining therefrom a knowledge base with demographic cluster information of the viewer in terms of statistical state machine transition matrices.

17.   (Previously Presented) The method according to claim 1, wherein the data items have a probability function with a confidence level, the method further comprising:

updating the historical data information upon determining that a given data item has a probability function with a higher confidence level than a previous data item.

18.   (Previously Presented) The method according to claim 6, wherein the pseudo hidden Markov process is a double random process.

19.   (Previously Presented) The method according to claim 18, further comprising:

defining a low level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters.

20.   (Previously Presented) The non-transitory computer-readable storage medium according to claim 14, wherein the pseudo hidden Markov process is a double random process.

21.   (Previously Presented) The non-transitory computer-readable storage medium according to claim 20, further comprising:

defining a low-level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters.

22.   (Previously Presented) The method according to claim 2, wherein the parameterized transition matrix is in a temporal form.

23.   (Previously Presented) The method according to claim 2, wherein the parameterized transition matrix includes a first matrix for TV watching activities and second matrix for TV channel surfing.

24.   (Previously Presented) The method of claim 1, wherein the statistical state machine transition models employ a parameterized transition matrix, and wherein the transition matrix comprises an element indicating a transition from a first state to a second state, and wherein each of the first and second states is indicated by one of a row and a column of the transition matrix.

25.   (Previously Presented) The non-transitory computer readable storage medium of claim 8, wherein the instructions further comprise describing the state transitions in a parameterized transition matrix.

26.   (Previously Presented) The non-transitory computer readable storage medium of claim 25, wherein the transition matrix comprises an element indicating a transition from a first state to a second state, and wherein each of the first and second states is indicated by one of a row and a column of the transition matrix.

27.   (Previously Presented) The method of claim 1, wherein each of the plurality of demographic groups are defined by viewing monitor information including watch date, watch start time, watch duration and watch channel, and associated demographic information.

28.   (Previously Presented) The method of claim 27, wherein the associating the particular demographic group of the plurality of demographic groups with the viewer is based on the viewer's monitor behavior.

29.   (Previously Presented) The method of claim 28, wherein the viewer's monitor behavior is past monitor behavior.

30.   (Previously Presented) The method of claim 1, wherein each of the plurality of demographic groups is selected based on predetermined criteria selected external to the server-side system and the client-side system.

31.   (Currently Amended) A method comprising:

selecting externally generated groups defined by externally selected demographics including historical data from a plurality of actual viewers and historical actual electronic program guide (EPG) data to associate viewers with;

recording a ~~current~~ viewer's monitor behavior with data item variables including watched channel, watching start time, ~~and~~ at least one of watching date and watching duration, a ratio of time watched to time available for at least one program, and a ratio of time missed to time available for at least one program;

associating a particular group of the externally generated groups with the ~~current~~ viewer based on the ~~current~~ viewer's monitor behavior;

from a server-side system, inputting historical data information regarding demographic information and monitor behavior tagged to the viewer for the viewer's particular associated group;

generating preferred program guide information based on the historical data information for the viewer's ~~demographic~~ particular associated group and based on bias metrics;

inputting the preferred program guide information for the viewer's particular associated group;

at a client-side system, associating the preferred program guide information with the viewer's monitor behavior; and

defining ~~therefrom~~ a knowledge base with associated group cluster information of the viewer in terms of statistical state machine transition models, wherein the generated groups are predefined externally to the client-side system and the server-side system.